**Written evidence submitted by the British Society for Antimicrobial Chemotherapy (DEL0298)**

## 1 Introduction to BSAC

BSAC represents one of the world's most influential networks of infection specialists (including, but not limited to, infectious disease physicians, microbiologists, pharmacists, researchers, and nurses).

As a learned society and charity, our mission is to work alongside others to provide high-quality open access support to those who need it most. This support takes many forms: free membership, workshops, conferences, public and political engagement through the All-Party Parliamentary Group on Antibiotics, a range of educational resources (including online courses), professional fora, research grants, and research publications via its *Journal of Antimicrobial Chemotherapy*, and the online open access education and research journal, *JAC-Antimicrobial Resistance*.

In recent years, the Society has worked in many countries, with many partners (from development banks and other professional societies, to government departments and supranational bodies like the World Health Organization) to help contain and control the growing threat of drug-resistant infection that has arisen as a consequence of antimicrobial resistance.

We possess almost 50 years of experience in leading on infection education, surveillance, and research. Dedicated to saving lives through the appropriate use and development of therapies (especially antibiotics), we support thousands of scientists, healthcare professionals, and policymakers, across the world every year through our activities.

We would like to thank the Committee for giving us the opportunity to respond to this inquiry.

## 2 Reasons for submitting evidence

Many of the infection specialists we represent help to deliver core NHS and care services. There is a feeling widespread among such specialists that approaches to viral pandemic (in this instance, the coronavirus and COVID-19) should be combined with ongoing efforts to contain and control drug-resistant infection (both of which feature in the World Health Organization's top 10 threats to global health).

Consequently, our response points to three interventions that could do this while significantly supporting both the delivery of health services as we come out of "lockdown" (during the next 12 to 24 months), and the building of a more resilient health service for when we experience the next pandemic (possibly within the next 3 to 5 years).

These are the interventions (see Section 3 for details) we would like to propose:

- Mandate Outpatient Parenteral Antimicrobial Therapy (OPAT) services across the NHS
- Instigate collaboration between the NHS and infection/learned societies to ensure the supply, and safe and effective administration, of antimicrobial agents (focusing on drug stability data, and the risk of shortages)
- Appoint a UK Government Minister with a portfolio to address, specifically, drug-resistant infection and pandemic prevention and preparedness.

We feel that each of these interventions would help to address one, or all, of the following concerns that have arisen, or been aggravated, by the emergence of COVID-19:

- Failure to diagnose serious bacterial infection
- Impact on patient outcomes of hospital acquired infection / co-infection / secondary bacterial infection
- Spikes in inappropriate antibiotic use, accelerating the rate of drug-resistant infection (it is suspected that antimicrobial stewardship (AMS) activity was compromised during the height of the pandemic in both primary and secondary care settings)
- Effective shielding of the most vulnerable patients
- Access to the best-available drugs for bacterial infection
- Lack of leadership, visibility, and accountability, in protecting the public and services against the threat of infectious disease.

## 3 Proposed interventions

Each of the interventions we are about to describe address most, if not all, of the following areas that the Committee has deemed necessary to consider for the purposes of this inquiry:

- *Meeting the wave of pent-up demand for health and care services that have been delayed due to the coronavirus outbreak*
- *Meeting the needs of rapidly discharged hospital patients with a higher level of complexity*
- *Providing healthcare to vulnerable groups who are shielding*
- *Ensuring that positive changes that have taken place in health and social care as a result of the pandemic are not lost as services normalise.*

### Intervention 1: Mandate Outpatient Parenteral Antimicrobial Therapy (OPAT) services across the NHS

The main aim of OPAT services is to deliver safe and effective infection treatment closer to home, wherever the clinical need exists. The major benefits of succeeding in this aim are to:

- Free up space in hospitals (through admission avoidance or early discharge)
- Reduce, significantly, the risk of hospital acquired infection (e.g. some hospitals have been identified as the source of SARS-CoV-2 spread. This is especially concerning for older people who might get infected in hospital before being discharged back into care homes)
- Improve patient outcomes
- Save money and protect resources
- Support the NHS's self-care agenda
- Extend the use of telemedicine (avoiding unnecessary contact with vulnerable members of the public who are shielding)
- Support both adult and paediatric health
- Support treatment in care homes.

BSAC has been providing support to OPAT services for 10 years. During this time the initiative has:

- Supported the establishment of scores of services in hospitals across the NHS
- Staged annual conferences and regional workshops across the UK and Eire
- Launched an open access online education course to support new and existing services
- Developed (2009) and updated (2019) Good Practice Recommendations (which focus on AMS and governance as being essential for delivering safe and effective treatment)
- Earned respect nationally and internationally

- Published strategies
- Driven the drug stability agenda internationally
- Looked at reimbursement models (including a research proposal to work with established cost calculators)
- Collected and published performance data through the OPAT National Outcomes Registry System (NORS). BSAC used NORS to respond to an NHS request for information on the deployment of OPAT services during COVID-19.

The value of these achievements has been obvious in recent months, with services scaling-up to support hospitals. Here is a BBC News report on the work of a "Hospital at Home" team, working to shield vulnerable patients from COVID-19. Here is a short video highlighting the work of an OPAT service at Homerton University Hospital (we would be happy to provide further examples of this sort to the Committee).

There is no doubt OPAT services will continue to prove instrumental when we come out of "lockdown" too, addressing, as they will, issues arising from spikes in antibiotic-use during the pandemic, and the concomitant rise in drug-resistant infection. Managing these infections through AMS programmes will prove vital during the coming months.

In addition, the significant backlog of surgery could be eased by managing more "medical" patients at home via OPAT (with pressure here only likely to increase the closer we get to winter).

Mandating OPAT services now would also help build a more resilient health service for when we experience the next pandemic (possibly in about 3 to 5 years). By then we could have developed a comprehensive approach to providing care closer to home - including for people with significant infections or secondary bacterial infections. The biggest beneficiaries would be vulnerable patients (i.e. the elderly isolated at home or in care homes - where video-supported OPAT can be delivered, and children - who may be more severely affected by the next pandemic, and for whom we would need a way of delivering services if paediatric beds were suddenly in short supply).

We would like to conclude this section by saying that the Chief Medical Officer for England, Professor Chris Whitty, acknowledged (during a meeting with BSAC in January 2020) that OPAT services were "transformational" and offered to do what he could to support them becoming mandated.

Following on from that meeting, BSAC was in the process of arranging to meet with the NHS's National Medical Director, Professor Steve Powis - before COVID-19 emerged.

To help us maintain momentum, we would urge the Committee to consider noting the importance of OPAT in its findings. Such an acknowledgment would give strength to our position in future discussions with decision-makers.

**Intervention 2: Instigate collaboration between the NHS and infection/learned societies to ensure the supply, and safe and effective administration, of antimicrobial agents (focusing on drug stability data, and the risk of shortages)**

BSAC's Drug Stability Testing Programme provides evidence (in accordance with the standards in the Yellow Cover Document) on the efficacy and stability of agents and devices used in infection management practice, particularly those used by OPAT services.

The Programme has, for the first time, made available open access stability data to inform practice and improve patient safety and outcomes in this rapidly expanding area of infection management.

The Drug Stability Programme has:

- Established that providing robust stability data allows more OPAT services to use narrower spectrum agents, thereby improving patient outcomes and reducing the likelihood of antimicrobial resistance and the drug-resistant infections that follow
- Identified lack of stability data as one of the biggest barriers to making more drugs available to OPAT services across the UK
- Already tested the following agents: flucloxacillin, meropenem, piperacillin/tazobactam, ceftazidime, ceftolozane/tazobactam
- Agreed to test the following agents in the near future: amoxicillin, acyclovir
- Established partnerships with colleagues across the world in a bid to harmonise data, standards, and guidance.

Alongside the need for more drug stability data, BSAC believes that far more rigorous processes and procedures need to be adopted to ensure the availability of essential drugs.

Drug shortages are nothing new, but it is clear that supply chains become more fragile during times of unprecedented demand, and can result in:

- Hospitals running out of antibiotics (our members have experienced countless "outages" of essential antibiotics, sometimes where limited alternatives exist)
- Inappropriate prescribing, which in turn can help to drive AMR and drug-resistant infection
- The NHS being exposed to price "gouging" at worst, or more expensive markets at best.

Sourcing alternative agents, amending guidelines and stock lists, notifying changes to a diverse workforce and dealing with issues out of hours can result in a significant amount of time spent resolving problems, when services are already stretched due to the pandemic and staff shortages.

In addition to the supply of existing drugs, we feel there needs to be a much greater acknowledgement of the need for rapid research into the development of novel antibacterial agents, as well as support for the use of medicines out of licence - so that we can urgently build an evidence-base for more treatments.

If this pandemic has proved anything, it has proved that the world can undertake research and development swiftly and effectively when it needs to.

**Intervention 3: Appoint a UK Government Minister with a portfolio to address, specifically, drug-resistant infection and pandemic prevention and preparedness**

Taken together, drug-resistant infection and viral pandemic pose one of the biggest policy challenges of our age.

The scale, complexity, and seriousness, of this challenge urgently requires leadership, visibility, and accountability - as well as an elected representative with the ability to work across Government departments and all areas of health and science (factory farming, for example, is already a major focus for those working on AMR prevention - and is considered one of the most likely causes of the next influenza pandemic).

Consequently, we think it is time the UK Government gave serious consideration to the appointment of a Minister with a specific portfolio to address drug-resistant infection and pandemic prevention and preparedness.

The unprecedentedly heavy - and uncoordinated - use of different antibiotic classes around the globe to fight secondary bacterial infections linked to COVID-19 will speed selection for multi-drug resistance. Consequently, wilder dissemination of multi-drug resistance is likely to occur. If we fail to take decisive action now, drug-resistant infection could prove more catastrophic, and more difficult to solve, than the current pandemic - or subsequent ones.

## 4 Summary

The British Society for Antimicrobial Chemotherapy (BSAC) represents hundreds of the most influential UK-based infection specialists, many of whom help to deliver core NHS and care services.

These specialists think the approach to viral pandemic (in this instance, coronavirus and COVID-19) should be combined with ongoing efforts to contain and control drug-resistant infection (both of which feature in the World Health Organization's top 10 threats to global health).

BSAC proposes three interventions that could do this while significantly supporting both the delivery of health services as we come out of "lockdown" (during the next 12 to 24 months), and the building of a more resilient health services for when we experience the next pandemic (possibly within the next 3 to 5 years).

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- Appoint a UK Government Minister with a portfolio to address, specifically, drug-resistant infection and pandemic prevention and preparedness.

Each of these interventions would help to address one, or all, of the following concerns that have arisen, or been aggravated, by the emergence of COVID-19:

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- Effective shielding of the most vulnerable patients
- Access to the best-available drugs for bacterial infection
- Lack of leadership, visibility, and accountability, in protecting the public and services against the threat of infectious disease.

*May 2020*